

1992 — A Year of Improvements

IPSC

Production Incentive Program — This past year IPSC employees earned 86 percent of targeted goals for an award of 4.3 percent of their annual base wage.

Reduced Positions — Because of Training — Employee training continued to be an ongoing effort at IPSC. We restructured the training considerably, and as a result, reduced budgeted positions from 618 to 609. Employees became much more proficient and reached a level of training that allowed them to perform their jobs with minimal support.

Training by Computer — A software program called "Pinnacle" was purchased to support the expanding need for training and, at the same time, keep the time and costs to a minimum. In the Pinnacle program, a training technician would enter text and information. The program could then be used to generate a training module with questions and a final exam for a specific subject. The module was then placed on the local area network and used as a training session for employees by using a video terminal. This approach proved to be very effective and the retention of the information taught to the employees was shown to be as high, if not higher, than traditional classroom instruction.

Tracking Employee Training — A new tracking program that makes a training record of the classes taken on the "Pinnacle" system was placed in operation. This created a computer record of all training given to an employee. The tie to the Pinnacle system eliminated the need to have someone transcribe the information to maintain a paper file. It also would allow an employee to use the computer to review their training file. Supervisors would be able to manage their responsibilities and ensure employees remained current with required training. It also allowed the supervisor to review the training or retraining required for the upcoming year.

Optical Imaging System Installed — In July an Optical Imaging System was purchased as part of IPSC's Records Management System. This system allowed electronic document creation, imaging, and routing of documents. A Work Flow Analysis Group recommended and implemented major efficiency improvements in the work flow between Purchasing, Warehouse, Receiving, and Accounting. This resulted in the reduction of five clerical positions.



Burner Replacement — In April most of the Unit 1 burners were replaced with new Babcock & Wilcox burners.

Maintenance Effectiveness — The "Monthly Maintenance Indices Report" was expanded to include over budget accounts, equipment with repeated breakdowns report, and equipment with breakdowns occurring after preventative maintenance was performed.

Plant Information System — The Plant Information (PI) system was implemented in

several steps. The first equipment arrived in late 1992. The first phase, a joint project between IPSC and LADWP, was implemented as a Project Modification (PM 276) using left-over construction money. Initially the goal was to replace the Modvue computers in the scrubbers which were unreliable and did not collect history. The project was expanded to gather data from Modicon PLCs in lime preparation, sludge conditioning, and water treatment as well as the scrubbers. Because of the historical and display capabilities of the PI software, a second phase was planned to gather data from the power block areas of Unit 1 and Unit 2.

Site Storm Water Runoff Modifications — The Environmental Protection Agency (EPA) implemented some regulations they had been working on for several years regarding storm water runoff from industrial sites. These new regulations made it necessary for industrial sites to either contain the storm runoff, or obtain a permit to allow the storm water to runoff under specified conditions. The permit required that extensive monitoring and record keeping be maintained so the EPA could determine if the permit holder was discharging more than allowed. This information could also be used to determine if the permit holder was causing change to the environment.

The Intermountain Power Project (IPP) site was studied and evaluated very carefully. It was determined that with some modifications the site drainage system could be modified to contain all storm runoff on site. This action eliminated the requirement to obtain a discharge permit. The main step in this process was to construct a storm water ditch from the Brush Wellman Road back to the Waste Water Holding Basin.

This ditch, with its associated pumping stations, was constructed in the summer of 1992. With this ditch in place, no storm runoff coming from the industrial activity area on site could leave the IPP site. This meant one less government permit to maintain. The Intermountain Railcar Facility in Springville, Utah was subject to the same regulations regarding storm water runoff. However, there was no way to keep the storm water from leaving that site. An application for discharge of storm water was filed with the state. The permit was issued for storm water discharge by the state of Utah. Some of the conditions of the permit required monitoring of storm intensity, measuring rainfall, observing the water quality of the runoff, and recording this data for future reference.

Document Storage at IPSC — In early 1992, the bid was awarded to set up the system utilizing IdentiTech (Melbourne, Florida) imaging software known as FYI. Two scan stations were installed utilizing 12" optical platters, an optical server, a database server, and two print stations. By the end of 1992, two additional scan stations had been installed and approximately 32,000 documents had been indexed and scanned into the system. IPSC had officially begun using electronic imaging as a major component to its records management system.

High Energy Piping — High Energy piping is critical to the operation of power plants. Damage and loss of life due to failure of main steam or hot reheat lines at other stations punctuated the need to look closely at our piping on a periodic basis.

The causes of piping failures include construction flaws, induced stresses such as steam or water hammer, hanger failures, cycle fatigue, and creep damage due to high temperatures over long periods of time.

Engineering began a carefully conceived plan to systematically inspect the high energy piping at IGS, beginning with the most critical. The purpose of this plan would be to identify construction flaws and gather critical baseline data for future evaluations. This five-year plan employed a variety of Non-Destructive Examination (NDE) techniques.

Some of the NDE techniques used were visual inspection, hanger measurements and inspection, dye penetrant examination, magnetic particle examination, ultrasonic examination, replication, load sensor readings, pipe diameter measurements, and radiographic examination.

Baghouse Modifications — A capital project to install sonic horns in the baghouse was initiated in 1992. Toward the end of the project installation, the differential pressure was so bad that the bags were being shaken by hand to clean them.

Computer Aided Drafting — IPSC purchased MicroStation and I/RAS B so work with all of the plant drawings could be worked hand-in-hand. IPSC began the process of establishing a master database of the latest plant drawings. Drawings from LADWP closed out projects, and as-found field verifications are then updated to the database. IPSC would scan new drawings and modify as needed.

IPSC began planning to implement AutoCAD in 1999. AutoCAD would allow drafting technicians to work in the same format as the engineers.

Turbine Hydraulic Coupling — The first hydraulic coupling bolts, installed on the Unit 2 'B' coupling during the 1992 fall outage, was an immediate success. Significantly reduced assembly time and precision alignments shortened every ensuing outage since converting to hydraulic coupling bolts.

Hydraulic coupling bolts were installed on every coupling that had been disassembled for sectionalized turbine inspections and repair. Only two more couplings in the Unit 1 turbine, C and D, did not have the hydraulic couplings but would be converted during the 1999 spring outage.

Isolated Phase Bus Duct — The isophase bus is used to transmit power from the generator to the generator step-up transformer. On July 17, 1992 the Unit 2 Generator tripped off line when the conductor in the isophase bus fell onto the bus enclosure and shorted out the generator.

Failure analysis determined the conductor support design was incorrect and the design of the original insulators was marginal. The bus manufacturer had installed the porcelain bus support insulators so the conductor hung from the insulators (the insulators were in tension). Vibration from nearby equipment caused the babbitt support to pull out of the insulator, which caused the conductor to fall on the enclosure.

The isophase bus conductor support system was redesigned by installing a second set of supports under the conductor in addition to the original support on top of the conductor. A modified support insulator was also used to provide greater resistance to babbitt support pull out.

Audit of 1991 Forms W-2 and 1099 — An audit team from Los Angeles Department of Water and Power (LADWP) examined 634 W-2 forms and 16 Vendor 1099 forms. The objective of the audit was to determine if the amounts reported on the forms for the 1991 calendar year were accurate. The auditors tested the accuracy of the employees' earnings and tax withholdings and then compared the findings to the W-2 forms.

They also tested the accuracy of the amounts reported on the 1099 forms with payments made to vendors.

The audit report stated that the taxable earnings and corresponding taxes withheld shown on W-2 forms and 1099 forms issued to employees and vendors, respectively, were accurate and properly reported to tax authorities.

Number of Employees — By the end of the year, the number of employees was 598.

IPA

Financing — June 30, the current weighted average borrowing cost was 7.93 percent.

Other

Construction Workers' Housing (CWH) Units — The final CWH units left the site.

Rope Rescue Team Was Organized — IPSC took the lead in organizing and arranging training for a twelve-member industrial rope rescue team, six of which were from IPSC and six from the other industries; namely, Brush Wellman, Continental Lime, and Ash Grove Cement.